UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/518,428	12/20/2004	Katrin Gisselfalt	1511-1036	6764

466 7590 11/21/2008
YOUNG & THOMPSON
209 Madison Street
Suite 500
ALEXANDRIA, VA 22314

EXAMINER	
GILLESPIE, BENJAMIN	

ART UNIT	PAPER NUMBER
1796	

MAIL DATE	DELIVERY MODE
11/21/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/518,428	GISSELFALT, KATRIN	
	Examiner	Art Unit	
	BENJAMIN J. GILLESPIE	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 November 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The language consisting of "short prepolymer" and "narrow distribution" renders claim 1 indefinite because "short" and "narrow" are relative terms.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Flodin ('441). Flodin discloses linear polyurethane comprising polyisocyanates, polyester diol, diamine chain extenders, and chain terminating ethanolamine (Col 1 lines 64-67, col 2 lines 1-7, 11-13, 28-31, and 60). Regarding applicant's methodology of claim 1, the urethane prepolymer is produced by adding the polyester diol drop wise to the aromatic diisocyanate, wherein "drop wise" is taken to satisfy the language "sufficiently slow rate," and the ratio of NCO:OH may be as large as 4.5:1 (Col 4 lines 40-42; col 5 lines 35-38; example 5). Furthermore, patentee explains the resulting polyurethane is useful in implants, fibers, and woven mats, which are porous (Example 1).

3. However, the examiner notes that the reaction temperature of example 5 is between 70-80°C, and therefore does not satisfy the claimed temperature range. Nevertheless, Flodin explains on column 4 lines 40-43 that when the prepolymer is created in the absence of catalyst, the reaction temperature may be as low as 60°C; therefore it would have been obvious to synthesize the prepolymer of example 5 at 60°C since it has been established that minimum reaction temperatures are not limited to 70°C. With this understanding, one of ordinary skill would reasonably expect the resulting polyurethane of Flodin to share the same backbone architecture and mechanical properties as claimed by applicants since both are produced by analogous reactants, stoichiometric ranges, and a similar methodology

Response to Arguments

4. Applicant's arguments filed 11/3/2008 with respect to the rejection of claims 1-20 have been considered but are not persuasive. Applicants argue the claimed invention is patentable over the prior art because one would not be motivated to produce the prepolymer of example 5 at 60°C since "a maintained temperature of 70-80°C" is required, no other examples utilize a temperature of 60°C, and Flodin never explicitly states the reaction temperatures of column 4 are specifically suitable for example 5.

5. In response, the examiner agrees that teachings of column 4 never *explicitly* refer to example 5, in fact this point has already been conceded by the examiner. Had Flodin explicitly stated that example 5 can be operated at 60°C, the claimed invention would be rejected under 102(b) and not 103(a). Instead, the examiner maintains it would have been obvious to operate example 5 at 60°C since column 4 establishes what temperature range can successfully produce the relied upon prepolymer. Furthermore, the language "a maintained temperature" does not

mean that example 5 is only successfully produced at temperatures between 70 and 80°C. Instead, the "maintained temperature" is based on the allotted amount of reaction time, which for example 5 is two hours. One of ordinary skill would understand that if the user were allotted a longer amount of time, the temperature could be "maintained" below the range of example 5.

6. Regarding applicants' remarks concerning the other examples, it is noted they utilize temperatures above 60°C, however, example 5 is not limited by what the *other* example teach, and more importantly this does not detract from the fact that column 4 clearly states that the relied upon prepolymer can be successfully produced at temperatures ranging from 60-80°C.

7. Applicants also argue the claimed invention is patentable over the prior art because Flodin fails to teach a NCO:OH ratio greater than 2:1; the examiner disagrees. As previously discussed, example 5 discloses a NCO:OH ratio of 4.5:1, which applicants readily agree to by stating the "the examples appear to suggest a greater ratio, a ratio larger than 2:1." (Page 7 of the response filed 11/3/2008) What's more, while Flodin teaches that the "shortest prepolymer" is produced at a ratio of 2:1, one of ordinary skill would be motivated to use excess isocyanate when producing the "shortest" prepolymer since it helps insure that the resulting prepolymer contains **only two** urethane linkages.

8. Finally, regarding applicants' remarks concerning the resulting backbone architecture of Flodin, as previously discussed, the prior art teaches an NCO:OH ratio greater than 2:1, and in fact explicitly state that the "shortest prepolymer" is created. When this specific prepolymer is created and then cured with diamine, the resulting polymer would inherently contain the require amount of urea linkages. Furthermore, regarding the claimed absence of catalyst, as previously stated, Flodin teaches that the prepolymer may be produced at 60°C ***in the absence of catalyst***

(Col 4 lines 41-42). Finally, applicants' position that the polyurea-urethane backbone of Flodin differs has not been supported by any type of factual data. Instead applicants have merely stated that "Flodin appears to suggest a polymer contrary to the claimed invention," i.e. it appears to be an unsubstantiated opinion which can not be substituted for fact, and therefore is not persuasive. (Page 7 of the response filed 11/3/2008) *In re Pike et al.,* 84 USPQ 235; *In re Renstrom,* 81 USPQ 390.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

10. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BENJAMIN J. GILLESPIE whose telephone number is (571)272-2472. The examiner can normally be reached on 8am-5:30pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be

reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

12. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Rabon Sergent/
Primary Examiner, Art Unit 1796

B. Gillespie